SKY-HERO
THE HERO FACTORY

# QUICK START GUIDE

Little Six
WHEN POWER
& SAFETY MATTER!

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# INTRODUCTION

CONGRATULATIONS on your purchase of a SKY-HERO Little 6, we hope that it will provide you with many years of fun and enter- tainment.

SKY-HERO products are designed and developed in Belgium (Europe), but distributed and supported across the globe through a network of dealers and outlets that can provide assistance and advice.
The SKY-HERO ethos is simple; provide cool, flexible, high quality aircraft, and back all products with a fair and reasonable support service.

# SAFETY ADVICE

## THIS AIRCRAFT IS NOT A TOY!

All SKY-HERO aircraft can be considered as sophisticated leisure products, which require handling with care and caution in order to avoid injury to yourself or others. Ensure that you fully review all of the information in this instruction manual and familiarise yourself with the characteristics of this SKY-HERO aircraft before attempting to fly it.This instruction manual has been designed with safety in mind and is provided to help you assemble your aircraft and to prepare it for use. Assembly of this aircraft requires basic mechanical and electrical skills and flying this type of aircraft requires basic coordination skills and some practice.

# GENERAL INSTRUCTIONS AND GUIDELINES FOR USE

The aircraft should not be flown by children and definitely not anyone under the age of 14
Failure to follow and comply with the safety advice and recommendations in this manual, can result in serious injury to you, others or property.
You should always check the local laws and regulations of the country where you will operate the aircraft, to ensure you are in com- pliance with them.
In particular you should avoid any sensitive areas such as Military establishments, Airports, Power stations and populated areas.
Always keep an adequate safe distance around the aircraft, ensuring that you avoid proximity to buildings, people and anything which is outside of your control.
The aircraft is controlled by radio signal which can be subject to interference outside of your control, a loss of radio contact with the aircraft puts it out of your control and could cause unpredictable results.
Never fly the aircraft in confined or built up areas, where you might lose visibility of the aircraft.
Never fly the aircraft in bad weather or strong winds, doing so could cause you to lose control with unpredictable results.
Never approach the aircraft until the propellers have stopped turning and never try to touch it whilst it is in flight.
Keep your batteries away from children, young children could attempt to put them in their mouth with dangerous consequences.
Do not expose the aircraft to water, moisture or liquids.
Do not attempt to fly the aircraft when battery power is low (including transmitter battery).
Before each flight, make sure that all propellers are securely attached, that there is no damage to the aircraft or its electronics and wiring.
Always disconnect the battery power to the aircraft before turning off the transmitter and always turn the transmitter on (checking the position of all controls) before connecting the battery
Always following the instructions provided with your Flight Controller and any accessory equipment such as transmitter, battery chargers etc.

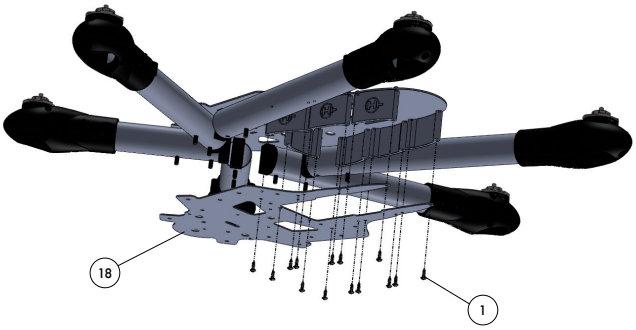
# REQUIRED EQUIPMENT

At least one Lipo 4S Battery (3700 MAH or greater is recommended) 7mm Drill bit (suitable for drilling through plastic/steel/wood)
CA Glue to secure the mast of the GPS receiver
A Hex screwdriver
Access to the internet to download/access the Little Six user manual

# FINAL ASSEMBLY

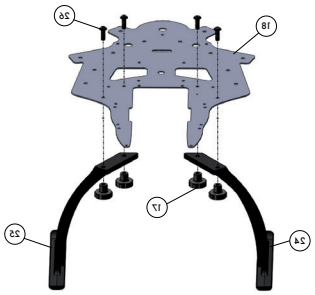
## 1 SECURING THE ARMS ONTO THE FRAME

Finish assembly of the arms by using the M4 knurl button long nuts (17) and the M4 Hex Nut Nylstop (22) to secure the frame (using M4 washers (21)) as indicated in the adjacent diagram.




## 2 ATTACHING THE LANDING SKIDS TO THE LOWER FRAME

If you plan to use a Camera or install a Gimbal, below the aircraft, you will need to install the landing skids. Otherwise if you prefer a sleeker look, you can leave the landing skids off.
Secure the landing skids using 4 x Button Head Screws M4 x 12MM and 4 x Knurl Button Long M4.



## 3. FIX THE GPS ANTENNA

1: Find the bag with the DJI GPS / COMPASS & locate the gps antenna holder on the chassis.

2: Simply push the mast in the antenna holder and glue it with CA glue. THE ARROW ON THE DJI GPS / COMPASS MUST POINT PERFECTLY FORWARD !!

3: Push the plug in the GPS input of the PMU and route the cable.

GPS input

Arrow pointing Perfectly forward

4 Warning! Arrow must be pointing towards nose of aircraft! (Do not move it until the glue has set!)

# 4: ATTACHING THE CANOPY

You must drill the canopy in the middle with 7mm hole. The insert the rubber grommit. Secure the canopy with the green circlip.

# SETTING UP

## THE RADIO

Link9
RADIO

# Settings your Link9 Radio for Little Six & Little Spyder bind ready

## 1 RADIO NAVIGATION SYSTEM

Push 2 sec to unlock screen

Push to enter or validate choice

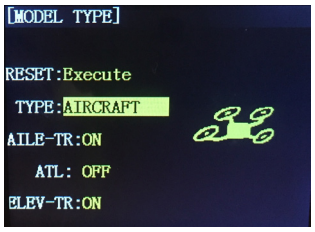
Scroll to navigate - change values

Push to enter menu

Basic menu > advance menu > basic menu > etc...

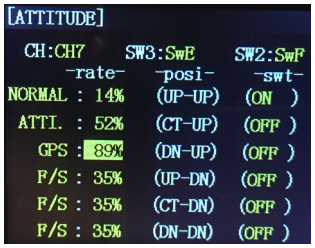
Push to exit

## 2 CHANGE THE MODEL TYPE




- Enter basic menu
- Enter **Model type**
- Select -type- and change to **Aircraft**
- Push 2x to validade

## 3 ADJUST YOUR ATTITUDE MENU




- Enter advance menu
- Enter **Attitude**
- Change all values as follow

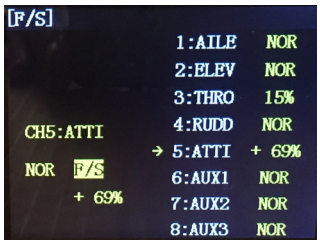
CH: CH7 SW3: SwE S W2: SwF

- rate -

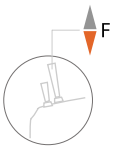
| | |
|---|---|
| NORMAL | 14% |
| ATTI | 52% |
| GPS 8 | 9% |
| F/S | 35% |
| F/S | 35% |
| F/S | 35% |

-> Control and fine adjust those values using your NAZA assistant: each value should activate the right function

## 4 SET YOUR FAIL SAFE

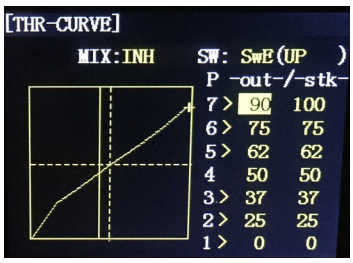



1. Set your fail safe switch to **pulled** position SwF to activate your fail safe - return to home function

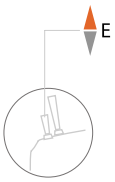



2. - Enter basic menu
   - Enter **F/S**
   - Select **5: ATTI**
   - Change NOR to **F/S**
   - Push 2 sec until a value appears next to **5: ATTI**

## 5 ADJUST YOUR THROTLE CURVE

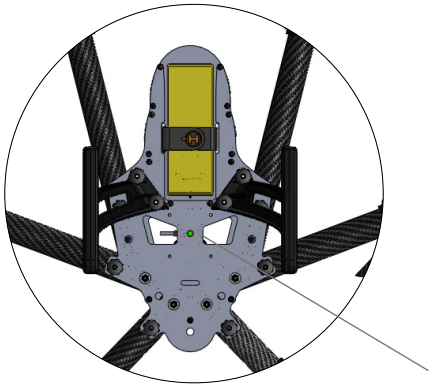



1. Push your E switch on **pushed** position to set your flight mode on normal position




2. - Enter advance menu
   - Enter **THR - CURVE**
   - Select **SW** and change to **SWF (up)**
   - Select **7 > OUT** value and adjust to **90%**

## 6 SETTING FOR YOUR NAZA FLIGHT CONTROLLER



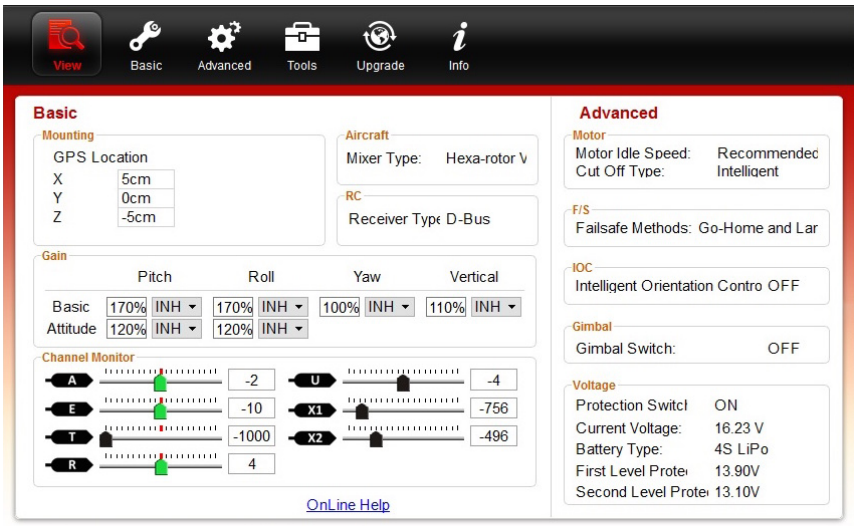
- Download the latest assistant on DJI Website

  **http://www.dji.com/product/naza-m-v2/download**

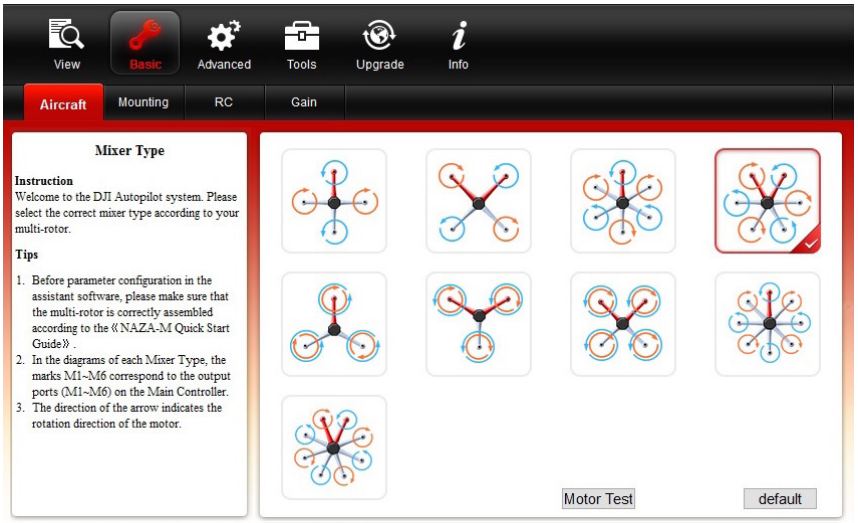
- Install the assistant on your computer
- Remove your propellers!
- Turn your Link9 on
- Connect your battery
- Install the DJI wind driver installer
  ( the Link9 must be turnned on, the USB must be conncted and the battery connected )

  **http://www.dji.com/product/naza-m-v2/download**

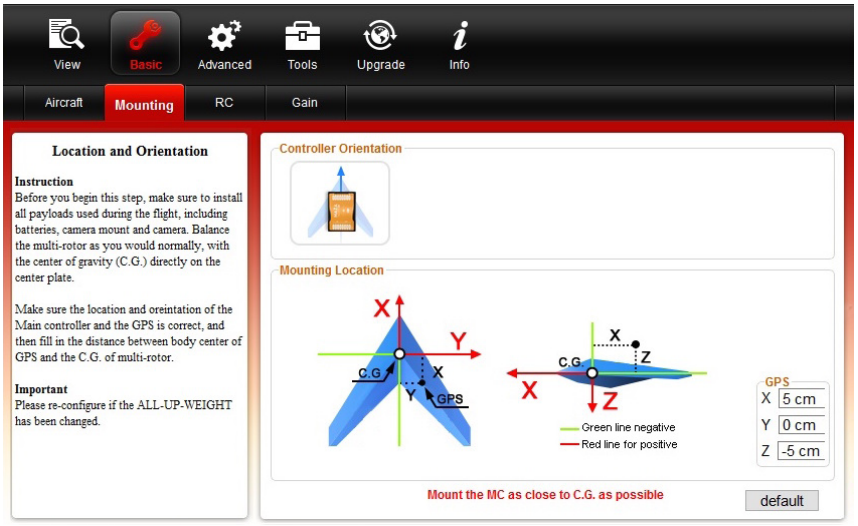
# 7 CONTROL YOUR NAZA SETTINGS USING THE FOLLOWING SCREENSHOTS



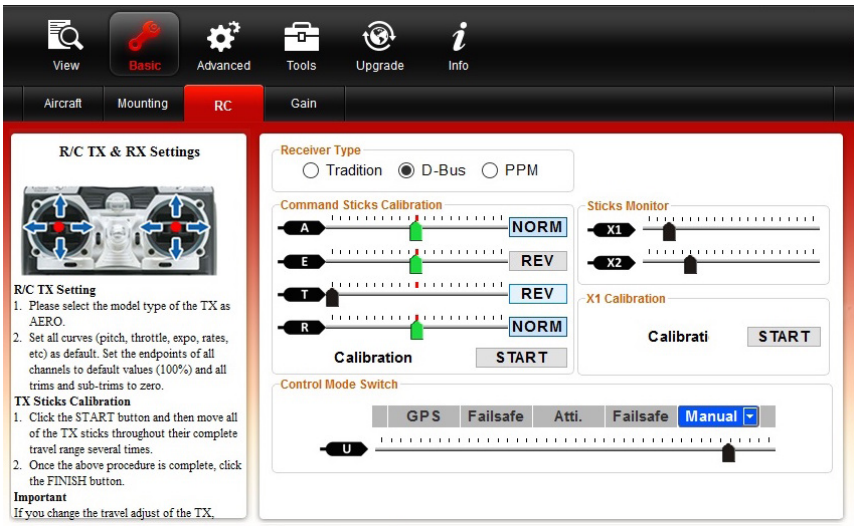

- General control screen


View
Basic
Advanced
Tools
Upgrade
Info
Aircraft
Mounting
RC
Gain
Mixer Type
Instruction
Welcome to the DJI Autopilot system. Please select the correct mixer type according to your multi-rotor.
Tips
1. Before parameter configuration in the assistant software, please make sure that the multi-rotor is correctly assembled according to the《NAZA-M Quick Start Guide》.
2. In the diagrams of each Mixer Type, the marks M1~M6 correspond to the output ports (M1~M6) on the Main Controller.
3. The direction of the arrow indicates the rotation direction of the motor.
Motor Test
default

- Control your multirotor type
- Hexa v for Little Six
- Quad X for Little Spyder


View
Basic
Advanced
Tools
Upgrade
Info
Aircraft
Mounting
RC
Gain
Location and Orientation
Instruction
Before you begin this step, make sure to install all payloads used during the flight, including batteries, camera mount and camera. Balance the multi-rotor as you would normally, with the center of gravity (C.G.) directly on the center plate.
Make sure the location and oreintation of the Main controller and the GPS is correct, and then fill in the distance between body center of GPS and the C.G. of multi-rotor.
Important
Please re-configure if the ALL-UP-WEIGHT has been changed.
Controller Orientation
Mounting Location
X
Y
C.G
GPS
Z
Green line negative
Red line for positive
GPS
X 5 cm
Y 0 cm
Z -5 cm
Mount the MC as close to C.G. as possible
default

- Control your gps location settings

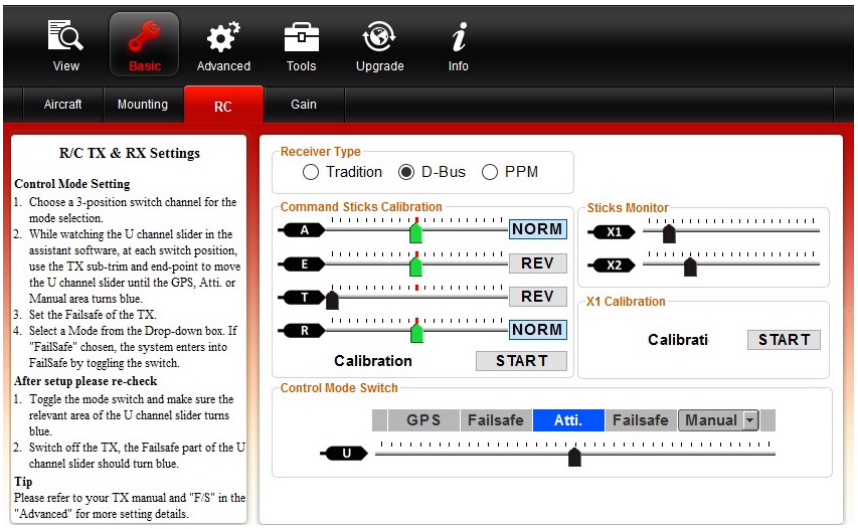



- Control your Manual position setting

- SwE must be in pushed position

- adjust your settings in your Link9 attitude menu to turn the manual position to blue

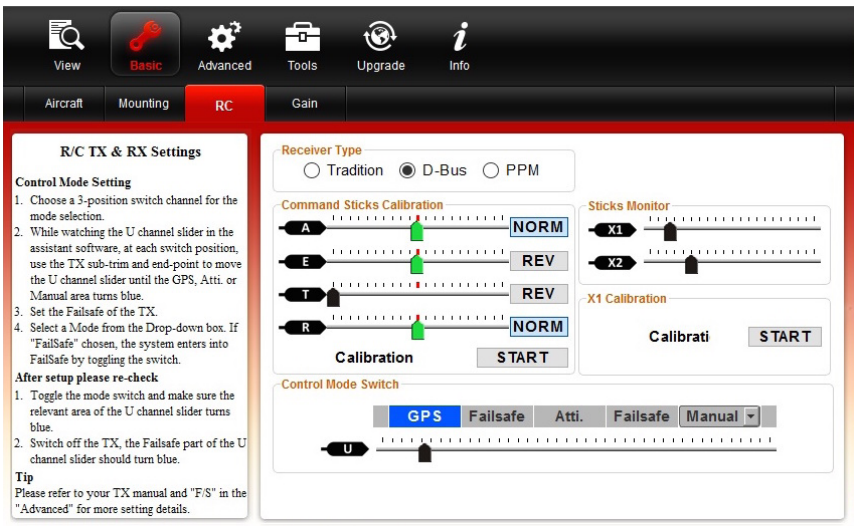
- Be carefull, manual mode is for expert, you can change this settings to atti in your Naza assistant for maximum security




- Control your Atti position setting

- SwE must be in middle position

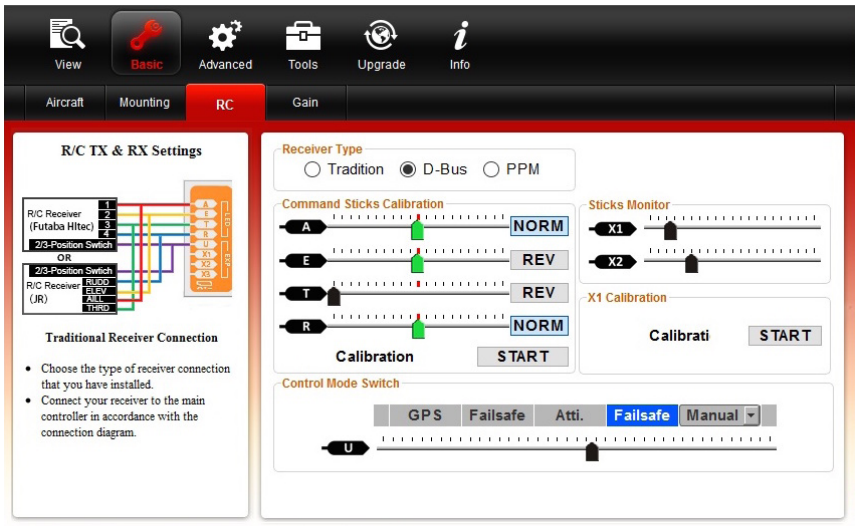
- Adjust your settings in your Link9 attitude menu to turn the atti position to blue




- Control your GPS position setting

- SwE must be in pulled position

- Adjust your settings in your Link9 attitude menu to turn the GPS position to blue

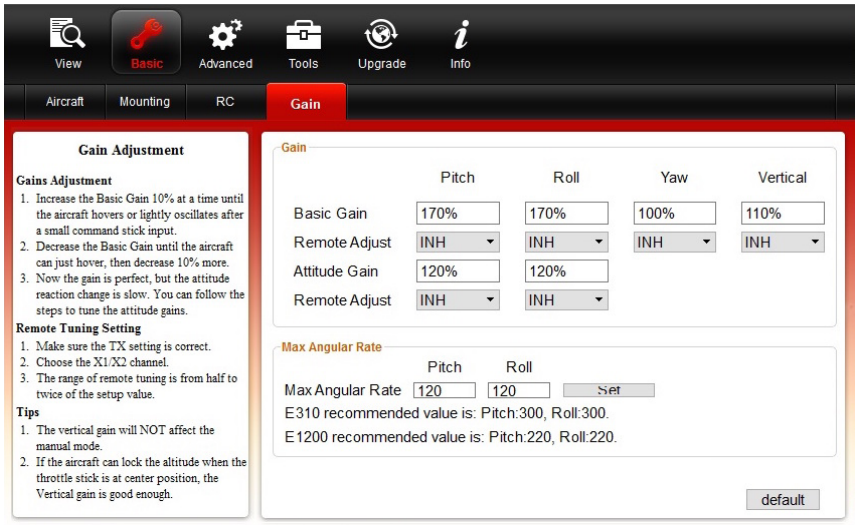



- Control your Failsafe position setting

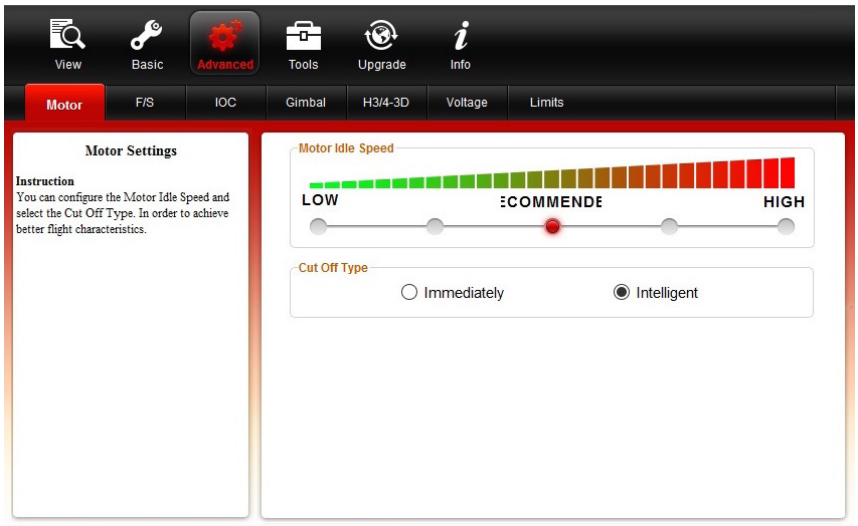
- SwF must be in pulled position

- Adjust your settings in your Link9 attitude menu to turn the Failsafe position to blue

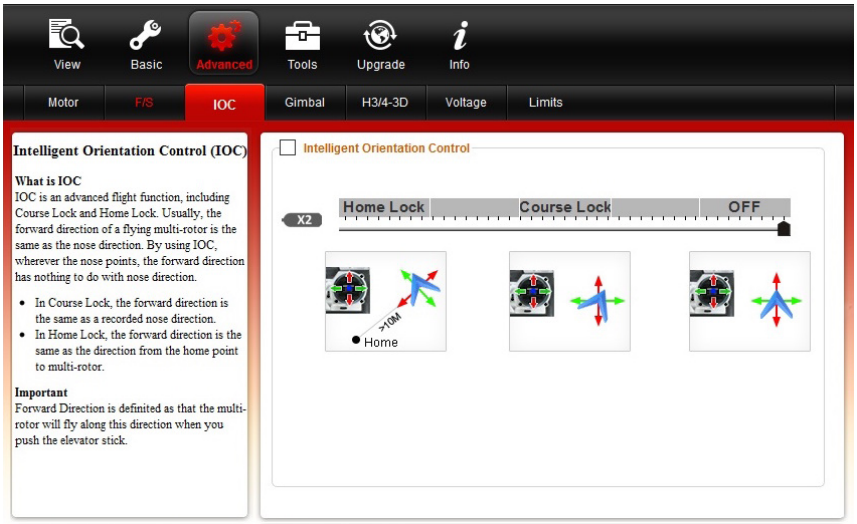
- With the SWF in pushed position, turn the Link9 off: The control mode will turn automaticaly to failsafe




- Adjust your gains
  those values are for beginners or video filming




- Set your minimal motor value and cut off type


View
Basic
Advanced
Tools
Upgrade
Info
Motor
F/S
IOC
Gimbal
H3/4-3D
Voltage
Limits
Intelligent Orientation Control (IOC)
What is IOC
IOC is an advanced flight function, including Course Lock and Home Lock. Usually, the forward direction of a flying multi-rotor is the same as the nose direction. By using IOC, wherever the nose points, the forward direction has nothing to do with nose direction.
In Course Lock, the forward direction is the same as a recorded nose direction.
In Home Lock, the forward direction is the same as the direction from the home point to multi-rotor.
Important
Forward Direction is definited as that the multi-rotor will fly along this direction when you push the elevator stick.
Intelligent Orientation Control
Home Lock
Course Lock
OFF
X2
>10M
Home

- we do not recommend to use this option...

- please refer to your Naza user manual to understand the function and activate one switch on your link9 radio (ch6 )to be able to use it...

## 8 HOW TO BIND

- Turn Your Link9 on

- Plug your lipo in your model

- Push and hold the bind button untill the led start to blink red. Once the led turns solid red, it's bound

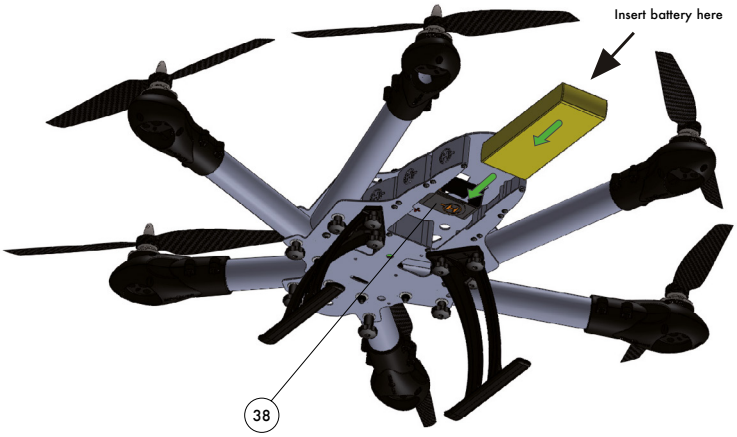
- To turn the receiver into S-Bus, push the bind button two times: The led becomes solid blue ( purple )

- Now you can see your signal power level on your Link9 radio

**Signal power level:** LowM id High

# INSTALLING THE BATTERY

Insert your battery as shown, securing it with the battery strap (38). Ensure that the aircraft is reasonably well around it's CoG point.




# CALIBRATING COMPASS

## Without GPS module, please skip this step.

## If you use with GPS module, follow step-by-step for calibration.

**(1) DO NOT** calibrate your compass where there is magnetic interference, such as magnetite, car park, and steel reinforcement under the ground.

**(2) DO NOT** carry ferromagnetic materials with you during calibration, such as keys or cell phones.

**(3)** Compass module **CANNOT** work in the polar circle.

**(4)** Compass Calibration is very important, otherwise the system will work abnormal.

## Calibration procedures

**(1)** Switch on the transmitter, and then power on autopilot system !

**(2)** Quickly switch the control mode switch from **GPS Mode** to **Manual Mode** and back to GPS Mode ( or from **GPS Mode** to **ATTI. Mode** and back to GPS Mode ) for more than 5 times, The LED indicator will turn on constantly yellow so that the aircraft is ready for the calibration.

**(3) (Fig.1)** Hold your Multi-rotor horizontal and rotate it around the gravitational force line (about 360o) until the LED changes to constant green, and then go to the next step.

**(4) (Fig.2)**Hold your Multi-rotor vertically and rotate it (its nose is downward) around the gravitational force line (about 360o) until the LED turns off, meaning the calibration is finished.

**(5)** Switch on the transmitter, and then power on autopilot system !

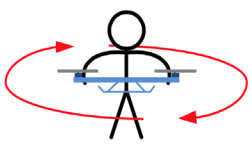
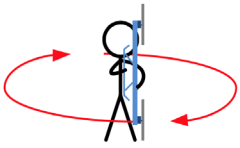


Fig.1F



ig.2

**(5)** If the calibration was successful, calibration mode will exit automatically. If the LED keeps flashing quickly Red, the calibration has failed. Switch the control mode switch one time to cancel the calibration, and then re-start from step 2.

- When the GPS is abnormal, the Main controller will tell you by the LED blinking Red and Yellow alternately ( ), disable the GPS Module, and automatically enter the aircraft into the ATTI. Mode.

- You don't need to rotate your multi-rotor on a precise horizontal or vertical surface, but keep at least 45° difference between horizontal and vertical calibration.

- If you keep having calibration failure, it might suggest that there is very strong magnetic interference around the GPS /Compass module, please avoid flying in this area.

- When to do re-calibration

a)The flight field is changed.

b) When the multi-rotor mechanical setup has changed:

- If the GPS/Compass module is re-positioned.
- If electronic devices are added/removed/ re-positioned (Main Controller, servos, batteries, etc.).
- When the mechanical structure of the multi-rotor is changed.

c) If the flight direction appears to be shifting (meaning the multi-rotor doesn't "fly straight").

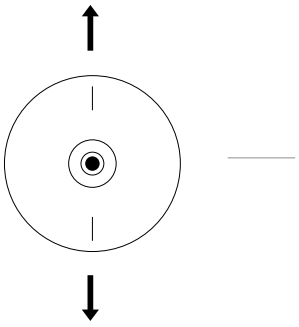
d) The LED indicator often indicates abnormality blinking when the multi-rotor spins. (It is normal for this to happen only occasionally)

# STARTING SEQUENCE

STARTING AND STOPPING MOTORS
( PUSH BOTH CONTROLS TO CORNER POSITION )

## IN ATTI - GPS MODE

Throttle stick. high position -> increase altitude



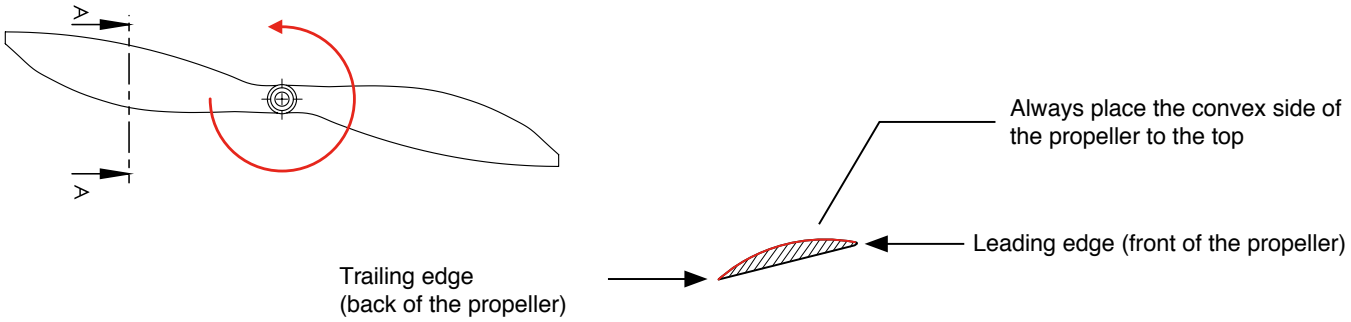
Throttle stick. Mid position -> altitude hold

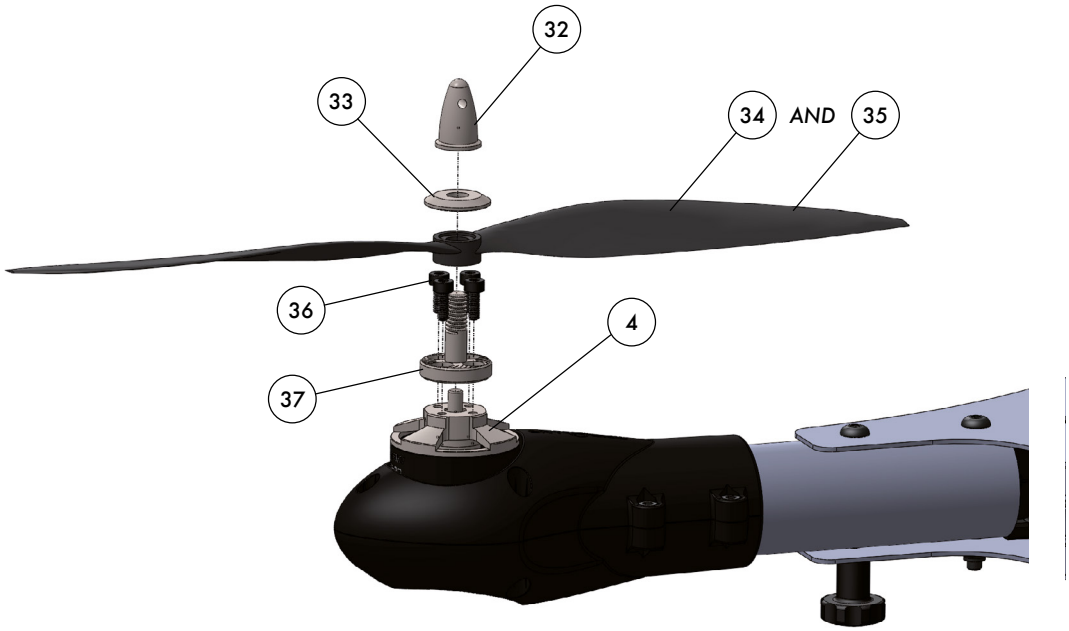
Throttle stick. low position -> decrease altitude

# ATTACHING THE PROP ADAPTER AND PROPELLER ON THE MOTOR

Install the prop shafts (supplied with your motors) on each motor. Depending on the diameter of the prop shaft, you might need to use an insert or washer that comes with your propellers to ensure a tight fit to the shaft and proper alignment.

We recommend that you use a prop balancer to balance your propellers, then connect the propellers on each motor – (ensuring that their direction of rotation corresponds to the diagram on page 11).


A
A
Always place the convex side of the propeller to the top
Leading edge (front of the propeller)
Trailing edge
(back of the propeller)



# BEFORE TAKE OFF
## OPERATE YOUR AIRCRAFT SAFELY

Refer to and follow all safety precautions mentioned in the “General Instructions and Guidelines for use” section of this manual.
Ensure that you always turn on your transmitter before connecting the aircraft battery power. After flying, make sure that you always disconnect the aircraft battery before turning off the transmitter.
On the transmitter, ensure switches are to neutral position and the throttle control is at the lowest position.
Check that your aircraft is ready for flight with no loose screws or fittings (pay special attention to the propellers) insert a battery into the battery bay and use the provided strap to secure the battery in place.
Connect the battery cable to the connector on the aircraft. (Important: make sure you keep the aircraft level and still while connecting the battery)
Wait for the LED lamp (located on the underneath of the aircraft) to flash green rapidly – it should do this twice (without a short interval between each set of flashes).
You should wait until the LED is only flashing Green without any Red flashes – this indicates that you have sufficient Satellites located for safe GPS mode flying. Beginners are strongly recommended to fly in GPS mode and become fully confident and capable with the aircraft before flying in ATTI or Manual modes

## NAZA FLIGHT CONTROLLER

If you are using the NAZA Flight Controller, follow the Naza Flight Controller pre flight checks (pay attention to indications that you may need to Calibrate your Flight Controller before flight). Full instructions for the NAZA Flight Controller can be found on the DJI website (www.dji.com) under NAZA-M (http://www.dji.com/product/naza-m-v2).
You should make sure you have access to the manual and necessary software, in order to configure the flight controller.

## FLIGHT TEST YOUR LITTLE SIX

Fly 5 minutes in hover and then land your aircraft.
Disconnect the battery and check the temperature of the motors and tubes: they may be warm, but must not be hot. Recharge the battery and check the capacity (mAh) that your charger puts back into the battery. This mAh value will cor- respond to the power consumption of your Little6 during the 5 minute flight.

## CALCULATING YOUR IDEAL FLIGHT TIME

If for example: you use a 5000 mAh battery and after 5 minutes of hovering, you put it on charge and 2000 mAh of power is put back into the battery.
To translate this into your ideal flight time, you need to divide the capacity of the battery (5000mAh) by recharged mAh amount (2000mAh) and multi- ply the result by the duration of your flight in minutes (5 min).
Example: 5000/2000 = 2.5 x 5 min = 12 min 30. This is your approximate maximum flight time.
For safety reasons, we would advise that you do not fly beyond more than 80% of the maximum flight time.
In our example, if you fly for about 10 minutes, you should have enough power to return and land without risking damage to your battery.
If your transmitter has a countdown or a timer function, it is advisable to use it! Windy conditions and cold temperatures can adversely affect your max flight time.
Note: You need to calculate the flight time individually for each type/specification of battery that you have.